BY ORDER OF THE COMMANDER
926TH FIGHTER WING

926TH FIGHTER WING INSTRUCTION 21-106

2 December 1999

Maintenance

OIL ANAYLSIS PROGRAM (OAP)

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This Fighter Wing Instruction (FWI) is revised in an effort to better define roles played, and eliminate errors in our oil analysis program (OAP). AFI 21-124, ACCI 21-101, and AFRC 21-101, mandates a detailed guidance for accomplishing our OAP. These instructions should be closely modeled for continuity and uniformity abroad.

SUMMARY OF REVISIONS

The following instruction revises 926 FWI 21-106 entirely. A (|) indicates revisions from the previous edition.

1. Wing Commander responsibilities:

1.1. Ensures an effective wing OAP.

2. LG/Squadron Commander:

2.1. Manages the wing OAP I.A.W. TO 33-1-37-1/2/3, AFI 21-124 and other applicable directives.

2.2. Ensures a wing OAP instruction is published to establish policy and procedures for the wing OAP. Include a standardized method to ensure the total oil serviced since last OAP sample can be tracked and accurately entered on the DD Form 2026, oil analysis request.

2.3. Ensures the NDI/OAP facility is on a priority repair list for base civil engineer.

2.4. Ensures the NDI/OAP facility has a class A telephone and a direct line to command post to expedite the reporting of abnormal wear-metal trends.

2.5. Ensures all personnel involved in the OAP are trained I.A.W. this instruction and a local OAP training plan. Personnel requiring this training include but are not limited to crew chiefs, expediters,

production superintendents, aircraft section flight chiefs, squadron maintenance officers/superintendents and squadron OAP managers/monitors.

2.6. Ensures that the (senior maintenance officer) SMO/MS comply with the OAP I.A.W. TO 33-1-37-1/2/3, AFI 21-124, AFRC 21-101 and other applicable directives.

3. Maintenance Squadron CC:

3.1. Conducts quarterly OAP meetings with the OG, LG, the FSM superintendents, propulsion flight chief, all organizational OAP managers or alternates and the NDI section NCOIC/designated representative.

3.2. Identifies Maintenance Squadron OAP monitor and alternate by appointment letter. Primary monitor shall be the propulsion flight chief. Alternate shall be NDI/OAP lab NCOIC. The appointment letters should include grade, name, duty phone, AFSC, organization and office symbol.

3.3. Ensures OAP monitors are trained properly as required by to 33-1-37-1, paragraph 3-2.b.

3.4. Ensures assigned OAP managers/monitors or alternates attend all OAP meetings.

4. Flying Squadron supervision:

4.1. Ensures all assigned aircraft are sampled I.A.W. TO 1A-10A-6 and TO 33-1-37-1. Sample shall be drawn prior to 30 minutes after shutdown and prior to any oil servicing.

NOTE: See Sect. 8 for sampling interval.

4.2. Ensure OAP samples not taken within the required time period by TO 1A-10A-6 will have a 25-minute ground run accomplished before the engine can be sampled. This ensures a true homogenous sample is obtained for an accurate analysis.

4.3. Ensures OAP samples are delivered to the OAP lab with a locally overprinted DD Form 2026, oil analysis request, filled out I.A.W. TO 33-1-37-1 and this instruction. Crew Chiefs shall fill out and submit DD Form 2026's immediately after first flight of the day engine shut down.

4.4. Complete the oil added, and time sample taken blocks when the oil sample is taken. Oil added shall represent the amount of **total** oil, in half-pints, serviced since **last** sample was taken. Enter word "**None**" or "**0**" if none added.

4.4.1. Annotate in DD Form 2026 if oil has been changed, immediately following ground run.

4.4.2. In the DD Form 2026 "remarks" block use engine flight time to indicate **total** flight time since **last** oil sample was taken.

4.5. Ensures all aircraft engines under special OAP codes C & E are not operated until results of the OAP sample(s) are known.

4.6. Ensures DD Forms 2026, oil analysis request, with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error are corrected immediately.

4.7. Ensures all maintenance actions, which affect oil-wetted engine components, are provided to the OAP lab. This should be done by using the remarks section of the DD form 2026, oil analysis request, or a suitable local form.

4.8. Ensures oil analysis records from returning assigned aircraft are forwarded to the NDI/OAP lab without delay.

NOTE: See sect. 9 for further duties.

5. Propulsion Flight Chief responsibilities:

5.1. Is the primary OAP monitor.

5.2. Ensures accurate and timely deficiency reports are submitted through the unit product improvement manager to the applicable ALC engine program offices on all engines requiring tear down or overhaul due to an OAP laboratory maintenance recommendation and on all oil-wetted component failures where no OAP laboratory maintenance recommendation was made.

5.3. Ensures a copy of the DD Form 2027, oil analysis record, or a suitable automated Form is provided to depot for each engine undergoing scheduled maintenance or over-haul at depot.

5.4. Makes the final decision regarding all OAP engine maintenance action recommendations.

5.5. Ensures all maintenance actions, originating from Propulsion Flight, which affect oil-wetted engine components are provided to the OAP lab. This should be done by using the remarks section of the DD Form 2026, oil analysis request, that is submitted with oap sample for maintenance on an oil-wetted engine component.

5.6. Notifies NDI/OAP lab and Command Post Maintenance of all engine exchanges/relocations immediately.

5.7. Ensures Engine Tracking personnel verify with the OAP lab that the information entered in the OAP records (DD Form 2027 or automated OAP permanent records) matches the TEMS records during the 14-day records check. The information that must, as a minimum, be verified is engine operating hours, time since oil change, engine serial number(s) and aircraft serial number.

NOTE: OG or equivalent may waive verification of OAP records against TEMS records when aircraft are deployed and the 14-day records check is due.

6. Command Post Maintenance responsibilities:

6.1. Maintains an OAP status on each assigned aircraft showing all lab recommendation codes that are not routine (code A) next to the aircraft serial number.

6.2. Serves as primary communications link for the transfer of OAP information between the OAP lab and its customers.

6.3. Relays to the OAP lab, information regarding engine exchanges/relocations on and off station as they occur but no later than 0800 the next duty day.

6.4. Ensures the flight line expediters maintain a OAP status on each assigned aircraft showing all lab recommendation codes that are not routine (code A) next to the aircraft serial number.

6.5. Ensures aircraft engines without a known OAP status from prior days' operation shall not be operated unless waived by the LG or his alternate.

6.6. Notifies flight line expeditor and Flying Squadron of unknown OAP status. See Sect. 8 for response time. Flying Squadron annotates AFTO Form 781A with discrepancy, "**Oil analysis results**

unknown, do not fly or operate engines." Under a Red **X** symbol. Logistics Group Commander or designated representative's approval is required prior to flight, when OAP status is unknown.

6.7. Notifies NDI/OAP lab immediately when deployed/cross country aircraft return to home station.

6.8. Restricts Aircraft engines under Special Surveillance to local flights.

NOTE: See sect. 9 for further duties.

7. NDI/OAP lab NCOIC responsibilities:

7.1. Is the alternate OAP monitor.

7.2. Operates the OAP laboratory and maintains environmental controls I.A.W. TO 33-1-37-1/2/3, AFI 21-124, AFRCI 21-101 and other applicable directives.

7.3. Documents the 14-day records check on the affected engine's OAP permanent record with the date the check was accomplished and OAP lab person's initials.

7.4. Ensures a copy of the DD Form 2027, oil analysis record, or a suitable automated form is provided to the propulsion flight for each engine undergoing scheduled maintenance or overhaul at depot.

7.5. Immediately notifies command post and the propulsion flight chief when an installed engine is restricted from operation or is placed on special sampling.

7.6. Ensures analysis results on all installed engines are provided to command post after analysis of the OAP sample is complete and within response time prescribed in sect. 8.

7.7. Immediately notifies Propulsion Flight Chief/primary OAP monitor and Command Post Maintenance when abnormal OAP results are discovered.

7.8. Places Engines with oil changed on "**E**" code status to establish a trend for a minimum of three separate ground runs or local flights.

7.9. Ensures DD Forms 2026, **Oil Analysis Request**, with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error are corrected immediately.

7.10. Tracks aircraft OAP sample response times for all assigned aircraft to ensure the response time requirements are being complied with.

7.11. Maintains a current appointment letter of all customer OAP managers.

8. OAP sample interval and response time requirements for OAP samples:

8.1. Oil samples are taken after the first flight of the day and reported to Command Post Maintenance (CPM). Analysis results must be known prior to the next flying period. During surges and quick turns, sample intervals shall not exceed ten engine operating hours, in accordance with TO 1A-10A-6.

NOTE: The only exception to this is when aircraft are "hot pitted" (aircraft land and take off with no engine shut down). When this occurs: A-10 aircraft shall be sampled immediately after the second "hot pit and go sortie" with OAP sample results known prior to the next sortie (only two sorties flown due to hot pit before an OAP sample is taken and analyzed).

8.2. Response time shall be one and one half-hours.

8.2.1. The OAP sample response time begins at the time the OAP sample is taken and ends at the time the oil analysis results are reported to CPM.

8.2.2. When the OAP lab is not manned, they shall provide results to CPM no later than one and one half-hours after the beginning of the next shift.

8.3. Special "red cap" samples (OAP lab recommendation codes B, C, E, F, G, P and Q) shall be processed immediately.

8.4. Aircraft engines without a known OAP status from prior days' operation shall not be operated unless waived by the LG or his alternate.

9. OAP requirements for cross country flights or transient aircraft:

9.1. Command Post Maintenance.

9.1.1. Notifies Flying Squadron and NDI/OAP lab of departing aircraft.

9.1.2. Request OAP records from NDI/OAP lab.

9.1.3. Notifies NDI/OAP lab when and what aircraft return.

9.1.4. Initiates follow-up action when the oil analysis record is not returned to the OAP lab.

9.2. NDI/OAP lab.

9.2.1. Provide OAP records with last 10 analysis for each departing engine.

9.2.2. The OAP lab notifies command post if the oil analysis record is not returned.

9.2.3. The OAP lab reviews the returned oil analysis record for adverse trends and takes necessary action.

9.3. Flying Squadron.

9.3.1. Prior to departure, personnel annotate in the AFTO Form 781A discrepancy block with a red dash symbol, "**OAP Sample shall be taken after the first flight of the day. Where no OAP support exists, samples shall be drawn, then processed at next destination. Engine operating time shall not exceed 10 operating hours**."

9.3.2. Flightline personnel or expediter sign for the oil analysis record at the OAP lab, place it in the aircraft records jacket, and return it to the lab the day the aircraft returns to home station.

9.4. A-10 Commander/pilot.

9.4.1. Ensures samples are drawn and submitted immediately after first flight of the day shutdown.

9.4.2. Ensures transient maintenance personnel sample aircraft as required by this section and TO 1A-10A-6, and annotate a red dash symbol on the AFTO Form 781A indicating; "**Engine oil analysis results due, engine operating time shall not exceed 10 operating hours**"

9.4.3. Ensures, when OAP capability exists at a transient location and a OAP sample is required, the OAP sample results shall be known prior to aircraft departure unless authorized by the OG I.A.W. AFRCI 21-101, para 6.80.4.1.4.

9.4.4. Ensures, if OAP sample results are not provided before aircraft departure, transient maintenance personnel forward results, via fax/telephonically to the aircrew's next destination. (Either command post, transient maintenance or base operations). A-10 Commander/pilot ensures a standard entry is placed in the AFTO Form 781A, before departure I.A.W. AFRCI 21-101 PARA 6.80.4.1.2.

9.4.4.1. Sample entry is: "**OAP sample results unknown from previous day's flying. Results required to be known before departure from second transient location."**

9.4.5. Ensures, when OAP capability does not exist at transient location, samples are taken at departure base and carried to and processed at the next destination, along with the next OAP sample.

9.5. Deployed OAP personnel shall have either telephone or radio communication with command post and the flying squadron to expedite reporting of abnormal OAP trends.

9.6. When deployed, squadron shall continue to follow the maintenance practices of this instruction at the deployment site.

10. Special Surveillance Procedures:

10.1. All aircraft engines placed under special surveillance (OAP lab codes B, C, E, J, E, Q) shall be restricted to local flights.

10.2. Command Post shall notify Flying Squadron and OG of restricted aircraft.

11. Backup Support:

11.1. The Louisiana ANG 159th Fighter Wing is designated as Backup Support OAP Lab.

11.2. In the event 926th MXS OAP Lab becomes inoperable, i.e., equipment failure or non-availability of personnel, LG and LGQ are notified. The LG or his alternate determines utilization of said Backup Support.

11.3. In the event Command Post Maintenance becomes unmanned, Flightline dispatch/ Expeditor assumes the duties of CPM.

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Commander